

Apple-Works **F** o r u m

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Support for AppleWorks and ///EZ Pieces Users

Another Good Month

As you will see from the news items and special offers in this issue of the *AppleWorks Forum*, February was a good month for the Apple II community and NAUG.

During February, developers released two new applications that bring Multi-Finder/Switcher capabilities to the Apple IIGS system, Dan Verkade announced a new AppleWorks Init that handles dates into the twenty-first century, and Randy Brandt released a new version of Ultra 4. NAUG members will receive significant discounts on all four of these products and on four other programs described in this issue of the *AppleWorks Forum*.

This May it will be two years since NAUG increased its membership rates. Over those years the cost of publishing and mailing the *AppleWorks Forum* increased by more than seven percent. Although these cost increases are modest, we must now either adjust our rates or reduce costs to cover these changes. We are considering three alternatives suggested by our members:

1. Maintain the current publishing schedule and raise membership dues by \$3 to \$34.
2. Maintain the current membership rate of \$31 but eliminate the Members Helping Members section and reduce the size of the *AppleWorks Forum* to 24 pages.
3. Publish ten 32-page issues of the *AppleWorks Forum* annually and reduce membership rates to \$30.

We would like your reactions to these suggestions and any cost-cutting or revenue-raising ideas you have for the organization. We must make our decision by the beginning of April so we can announce our plans in the May issue of the *AppleWorks Forum*.

The **National AppleWorks Users Group (NAUG)** is an association that supports AppleWorks users. NAUG provides technical support and information about AppleWorks and enhancements to that program. Our primary means of communicating with members is through the monthly newsletter entitled the *AppleWorks Forum*.

An Improved Retirement Calculator

Dear Cathleen,

The retirement calculator on page 4 of the December 1992 issue of the *AppleWorks Forum* ignores an important variable; the effect of taxes on your retirement savings.

Since most savings plans generate taxable income, the taxes on the interest from your earnings can significantly reduce the amount you can save for retirement.

For example, if you use the figures in the article and assume that you will pay 28% tax on your earnings, you will run out of money at age 71, not at age 81 as indicated in the article. Running out of money ten years earlier than expected is significant to anyone contemplating retirement.

If your retirement investments generate taxable earnings, I suggest that you add a line to the "assumptions" portion of the template that lets you enter your tax bracket. Then enter a column that calculates the "After Tax Interest" immediately to the right of the "Interest Earned" column in the template (see *Figure 1*). Enter the formula $(1 - \text{TAX BRACKET}) * (\text{INTEREST EARNED})$ in the new column and adjust the "Remaining Investment" formula so it uses the after tax interest. Thus, the formula in cell D25 reads $1 - (E14/100) * c25$. That formula calculates the after tax interest earned on your retirement account.

James Harper
Dallas, Texas

AppleWorks Forum

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Figure 1: Retirement Calculator that Considers Taxes

File: RETIRE		REVIEW/ADD/CHANGE				Escape: Main Menu	
=====A=====B=====C=====D=====E=====F=====G=====							
01	THREE-RING TEMPLATE PLUS--Retirement Planner with Inflation Considered						
02							
03	Amount Already Invested for Retirement ----->				\$142,000		
04	Comfortable Retirement Income from						
05	Investments, in today's dollars ----->				\$40,000		
06	PRE-Retirement Investment Growth in % ----->				12.60%		
07	POST-Retirement Investment Growth in % ----->				7.00%		
08	Compoundings Per Year, If Applicable ----->				1		
09	Current Monthly Payment Into Investment----->				\$160.00		
10	Your Current Age, in years ----->				43		
11	Your Target Retirement Age ----->				62		
12	PRE-Retirement Inflation Rate in % ----->				4.00%		
13	POST-Retirement Inflation Rate in % ----->				6.50%		
14	Estimated IRS Income Tax ----->				28 %		
15	=====						
16	Investment Yields BEFORE/AFTER retirement:				12.60%		7.00%
17	First Year's Payment into Investments:				\$1,920.00		
18	Years Remaining Until Retirement:				19		
19	First Annual Withdrawal at Retirement				\$84,273.97		
20	=====						
21	Interest						
22	Your	Starting	-----		Annual	Annual	Remaining
23	Age	Investment	Earned	After Tax	Payment	Withdrawal	Investment
24	-----						
25	43	142,000.00	17,892.00	12,882.24	1,920.00	0.00	156,802.24
26	44	156,802.24	19,757.08	14,225.10	1,996.80	0.00	173,024.14
27	45	173,024.14	21,801.04	15,696.75	2,076.67	0.00	190,797.56
28	46	190,797.56	24,040.49	17,309.15	2,159.74	0.00	210,266.45
29	47	210,266.45	26,493.57	19,075.37	2,246.13	0.00	231,587.96
30	48	231,587.96	29,180.08	21,009.66	2,335.97	0.00	254,933.59
31	49	254,933.59	32,121.63	23,127.58	2,429.41	0.00	280,490.58
32	50	280,490.58	35,341.81	25,446.11	2,526.59	0.00	308,463.27
33	51	308,463.27	38,866.37	27,983.79	2,627.65	0.00	339,074.71
34	52	339,074.71	42,723.41	30,760.86	2,732.76	0.00	372,568.33
35	53	372,568.33	46,943.61	33,799.40	2,842.07	0.00	409,209.80
36	54	409,209.80	51,560.43	37,123.51	2,955.75	0.00	449,289.06
37	55	449,289.06	56,610.42	40,759.50	3,073.98	0.00	493,122.55
38	56	493,122.55	62,133.44	44,736.08	3,196.94	0.00	541,055.56
39	57	541,055.56	68,173.00	49,084.56	3,324.82	0.00	593,464.94
40	58	593,464.94	74,776.58	53,839.14	3,457.81	0.00	650,761.89
41	59	650,761.89	81,996.00	59,037.12	3,596.12	0.00	713,395.14
42	60	713,395.14	89,887.79	64,719.21	3,739.97	0.00	781,854.31
43	61	781,854.31	98,513.64	70,929.82	3,889.57	0.00	856,673.70
44	62	856,673.70	59,967.16	43,176.35	0.00	84,273.97	815,576.09
45	63	815,576.09	57,090.33	41,105.04	0.00	89,751.77	766,929.35
46	64	766,929.35	56,685.05	38,653.24	0.00	95,585.64	709,996.95
47	65	709,996.95	49,699.79	35,783.85	0.00	101,798.71	643,982.09
48	66	643,982.09	45,078.75	32,456.70	0.00	108,415.62	568,023.17
49	67	568,023.17	36,761.62	28,628.37	0.00	115,462.64	481,188.89
50	68	481,188.89	33,683.22	24,251.92	0.00	122,967.71	382,473.10
51	69	382,473.10	26,773.12	19,267.64	0.00	130,960.61	270,789.14
52	70	270,789.14	18,955.24	13,647.77	0.00	139,473.05	144,963.86
53	71	144,963.86	10,147.47	7,306.18	0.00	148,538.80	3,731.24
54	72	0.00	0.00	0.00	0.00	0.00	0.00
55	73	0.00	0.00	0.00	0.00	0.00	0.00
56	74	0.00	0.00	0.00	0.00	0.00	0.00
=====							
80	98	0.00	0.00	0.00	0.00	0.00	0.00
81	99	0.00	0.00	0.00	0.00	0.00	0.00

[Ed: Mr. Harper is correct that the tax on your earnings can significantly impact your retirement savings. His changes further emphasize the benefits you get by putting your retirement savings in an IRA, Keogh, or 401K account where your money earns interest tax free until you take your investments out of your accounts.

A copy of Mr. Harper's modified retirement template appears on this month's issue of **NAUG on Disk**. **NAUG on Disk** costs \$10 from NAUG and requires a 3.5-inch disk drive. This template requires AppleWorks 3.0.]

A Business Invoice Template

by Stan Hecker

Robert Lissner, the developer of AppleWorks, expected you to use his program in homes, schools, and in a few small businesses. Little did he realize that AppleWorks would one day be used to write a portion of the national news for a major television network, run a multi-million dollar hog farm, maintain the records for one of the world's most popular musicals, and help owners of small and medium size businesses with their daily responsibilities.

Right from the beginning, NAUG supported small business owners' efforts to use AppleWorks in their work. For example, the April 1988 issue of the *AppleWorks Forum* contains a comprehensive article that describes how to prepare business forms with AppleWorks. I followed the steps outlined in that article when creating this month's template.

The invoice template in *Figure 1* shows how much you can do with an unenhanced copy of AppleWorks 3.0. I designed the template for small businesses that cannot justify buying extra software, printers, and pre-printed forms.

Some of the Elements

The placement of the customer address block in the template lets you use window envelopes; you will not have to address an envelope for each invoice. [Ed: See the article entitled "How to Print Envelopes with AppleWorks" in the February 1989 issue of the *AppleWorks Forum* for a comprehensive description of this topic.]

You might need to revise the sales tax calculations for your own business; as every business person knows, each state has its own unique sales tax regulations.

Building the Template

Follow these steps to create the template.

You will start by formatting the columns and by using vertical and horizontal lines to create the form.

1. Create a new spreadsheet called INVOICE.TEMPL. Save the template frequently as you work.
2. Issue an Apple-V command and set the recalculation frequency to "Manual" and the standard value format to "Dollars" with two decimal places.
3. Issue an Apple-O command and type "PH" so AppleWorks does not print a report header.
4. Use the Apple-L command to set the column widths as follows (each column starts nine characters wide):

<u>Column</u>	<u>Width in Characters</u>	<u>Column</u>	<u>Width in Characters</u>
A	7	F	1
B	1	G	12
C	35	H	1
D	1	I	13
E	3		

5. Insert vertical line characters in columns B, D, F, and H, from row 17 through row 48. (The vertical line character is the upper case character to the right of the Space Bar on Apple IIGS and "platinum" Apple IIe computers. It is above the Return Key on Apple IIc and non-platinum Apple IIe keyboards. You must type a quotation mark before AppleWorks will accept the vertical line character.) [Ed: See the article "How to Add Vertical Lines to a Spreadsheet" in the July 1990 issue of the *AppleWorks Forum* for easier ways to insert vertical lines.]

Remember that you can use the Apple-F command to jump to any coordinates you specify.

My Favorite Template...

6. Put a vertical line in column D from row 10 through row 15. This line indicates the limit of the area reserved for the customer's address.
 7. With the cursor in cell A16, type a quotation mark and use the Underline Key (the uppercase hyphen) to draw a line from column A through column H across the screen. Then press the Return Key.
 8. Follow the procedures in step #7 and fill cell I16 with an underline.
 9. Fill cells A48, C48, E48, G48 and I48 with underlines.
 10. Put the cursor in cell A18, type a quotation mark, and fill cells A18, C18, E18, G18, and I18 with hyphens.
 11. Put the cursor in cell E19, issue an Apple-L command, and indicate that you want to change the block of cells through cell E40. Set the Value format to "Fixed" with no decimal places.
 12. Enter the text from *Figure 2* into the template. Make any changes that are appropriate for your business.
 13. Use the Apple-L command to format each cell as indicated in *Figure 2*.
- Now you will enter the name and address of your business. You will center this text in lines 1 - 4 of the template. Continue as follows:
14. Put the cursor in cell C1, type a quotation mark, and press the Space Bar seven times. Then type the first letter of your business name. Try to visualize where the rest of your business name will appear on the line. (You want to center your business name on the template.)

Figure 1: The Template in Use

```

File: CCC.INV.K          REVIEW/ADD/CHANGE          Escape: Main Menu
-----A---B-----C-----D=E=F-----G-----H-----I-----
1|                      H & H CONSULTING
2|                      1331 Cedarhill Drive
3|                      East Lansing, MI 48823-2808
4|                      (517) 332-3830
5|Number                      Date
6|    11                      INVOICE                      10/15/92
7|
8|Client Address:              Client Data:
9|
10|Charlevoix Classic Charters | Purchase Ord. #
11|12735 Pa-Ba-Shan Lane      | Sales Tax
12|Charlevoix, MI            49720-1077 | Exemption #
13|
14|                          | Contact Name :
15|                          | Contact Phone # 616-547-2195
16|
17|Stock #| Description |Qty| Unit Price | Total
18|-----|-----|---|-----|-----
19|
20| Study: Projection of Michigan | 1| | (See Below)
21| Graduates in Naval Architecture, | | |
22| Coast Guard Skipper Examinations, | | |
23| and Boating Safety Classes | | |
24| through 1999. | | |
25|
26| Expenses: | 1| | (See Below)
27| Travel--Two round trips | | |
28| Meals | | |
29| Accommodations | | |
30| (all as detailed 8/1/92) | | |
31|
32|G114-7| Cruising Guide to Lake Michigan | 1| $5.99 | $5.99
33|G116-2| Fox Islands Nature Guide | 3| $11.22 | $33.66
34|
35|
36|
37|
38|
39|
40|
41| Subtotal | | | $39.65
42| State Sales Tax | | | $1.59
43| Study, as listed above | | | $350.00
44| Expenses, as listed above | | | $211.80
45| Shipping | | | $4.00
46| Remittance, check 3456, 9/2/92 | | | ($550.00)
47| TOTAL DUE | | | $57.04
48|
49|
50|
51| THANK YOU for calling on H & H Consulting
52| A Michigan Partnership Specializing in School District Finance
53| and Population Studies
54| DBA: 1234567 Tax ID: 38-123456
-----
C45 (Label, Protect-L) Mailing
Type entry or use ⌘ commands                      328K Avail.

```

Then press the Delete Key to remove the letter and press the Space Bar to move further to the

Figure 2: Text Entries

Starting		
Cell	Text	Format
A5	Number	Default
H5	Date	Default
C6	INVOICE (add 3 spaces to center the word on the form)	Label, Right Justify
A8	Client Address:	Default
D8	Client Data:	Default
E10	Purchase Ord. #	Default
E11	Sales Tax	Default
F12	Exemption #	Default
E14	Contact Name : (allow 2 spaces after "Name")	Default
E15	Contact Phone #	Default
A17	Stock #	Default
C17	Description	Label, Centered
E17	Qty	Default
G17	Unit Price	Label, Centered
I17	Total	Label, Centered
C41	Subtotal	Default
C42	State Sales Tax	Default
C45	Shipping	Default
C46	Remittance	Default
C47	TOTAL DUE	Default

Repeat this process for rows 2 - 4 in the template.

Getting your information centered on the invoice may take some trial and error before you like the results.

15. Set the Value format of cell A6 to "Fixed" with no decimal places.

16. If you only use numbers in your inventory stock numbers, set the Value format of cells A19 through E39 to "Fixed" with no decimal places.

Sales Tax Computations

Computing the sales tax is a two step process. First, you determine the tax on the full dollar amounts. Then you combine that amount with the tax on the remaining "cents".

The formula in I42 does the computations. That formula computes the tax on the dollar amount and uses the lookup table in *Figure 3* to determine the tax on the remaining "cents". I developed the lookup table for Michigan, which imposes a 4% sales tax with "break-points" at 13 cents, 38 cents, 63 cents, and 88 cents over the even-dollar transaction.

Follow these steps to add the sales tax calculation capability to your template:

17. Enter the figures shown in the lookup table in *Figure 3*. (Enter these values even if your state uses different "break points"; you will customize the template after you test your work.) The labels above the table will help you remember the purpose of these numbers.

Figure 3: Sales Tax Lookup Table

```
File: INVOICE.TEMPL          REVIEW/ADD/CHANGE          Escape: Main Menu
=====J=====K=====L=====M=====N=====O=====P=====Q=====
29|
30|
31|
32|
33|
34|          Sales Tax Table
35|
36|          Cut Pt.  Pennies
37|          -----  -----
38|          $0.00    $0.00
39|          $.13     $.01
40|          $.38     $.02
41|          $.63     $.03
42|          $.88     $.04
43|
44|
45|
46|
-----
K32

Type entry or use ⌘ commands          345K Avail.
```

right or the Delete Key to move to the left and type the letter again. When you like the alignment, type the complete business name. Then press the Down Arrow Key.

18. Enter the following formula in cell I42:

```
=IF(I12="", (@INT(I41)*.04)+@LOOKUP(I41-@INT(I41),K38...K42),0)
```

My Favorite Template...

This formula starts by using an @IF statement to check if the customer is subject to sales tax. If cell I12 is blank, the customer must pay the tax, so the formula uses the @INT (integer) function to determine the number of whole dollars in the sale. (For example, a sale of \$2.98 contains two "whole dollars".) It then multiplies that amount by .04 to determine the sales tax on the whole dollars.

Then the formula uses the @LOOKUP function to calculate the tax on the pennies. First, it calculates the number of pennies by subtracting the number of dollars from the value in cell I41. Then it looks up the difference in the table in cells K38 through K42. The formula then adds the tax from that table to the tax on the even dollars and displays the total tax.

If cell I12 is not blank, the customer is exempt from sales tax, so the formula displays a zero in cell I42.

You must modify both the formula and the lookup table to accommodate the sales tax system used in your state. For example, if your state has a 5% sales tax, use the Apple-U command and the overstrike cursor to substitute ".05" for the ".04" in this formula. You will also need one more "step" in your state's lookup table, so revise the lookup table and change "K42" in the formula to "K43".

Calculating the Totals

19. Enter the following formula in cell I19:

```
@IF (@AND (E19>0, G19>0), E19*G19, @IF (E19>0, " (See Below)", ""))
```

This formula performs one of three operations:

- (1) If the user enters both a quantity *and* a unit price, the formula multiplies the quantity by the unit price and displays the result.
- (2) If the user enters a quantity but *not* a unit price, the formula prints the legend "(See below)". This option accommodates non-taxable goods and services that you list below the "State Sales Tax" line in the invoice summary.

Figure 4: Cell Protection Guide

Cell(s)	Layout Protection
A6	Labels Only
A10-C15	Values Only
C19-C40	Labels Only
C43-C46	Labels Only
E19-E40	Values Only
G19-G40	Values Only
I6	Labels Only
I10	Anything
I12	Anything
I14	Labels Only
I15	Labels Only
I43-I46	Values Only

(3) The formula displays a blank if the user enters *neither* a quantity *nor* a unit price.

20. Issue an Apple-C and copy the formula in cell I19 into cells I20 through I40. Press Apple-R in response to the "Same or Relative?" question.

The Remaining Formulas

Now you will enter the remaining formulas at the bottom of the invoice. Continue as follows:

21. Go to cell I41 and type the formula:

```
@SUM (I18...I40)
```

This formula sums the "Total" column in the invoice.

22. Go to cell I47 and type the formula:

```
@SUM(I41...I46)
```

This formula computes the overall total for the invoice.

Protect Your Work

Now you will protect your work. Follow these steps:

23. Put the cursor in cell A1, issue an Apple-L command, and protect the block that defines the entire spreadsheet (cells A1 through L60). Allow "Nothing".
24. Use the Apple-L command to reduce the protection of the cells and blocks of cells as defined in Figure 4.
25. Issue an Apple-V command and set the calculation frequency to "Automatic".

My Favorite Template...

26. Save the template. Then protect your work by locking the file with TimeOut FileMaster, Copy II+, BASIC, or any other disk utility program. [Ed: For step-by-step directions, see the article entitled "How to Lock Your Templates" in the May 1991 issue of the *AppleWorks Forum*.]

Using the Template

Follow these steps to use the template:

1. Load the template onto your AppleWorks desktop. Issue an Apple-N command and assign some meaningful name to the invoice. You will save each invoice in a separate file.
2. Enter the sequential invoice number in cell A6 and the current date in cell I6.
3. Enter the customer and transaction data for this purchase.
4. Enter the information about the item(s) you sold as follows:
 - (1) Items subject to sales tax: Enter a quantity in column E and a unit price in column G. The template will calculate the correct sales tax.
 - (2) Items not subject to sales tax: Leave the unit price (in column G) blank. AppleWorks will generate a "(See Below)" message as shown in *Figure 1*.
 - (3) When you use more than one line to describe a service or product, leave both the "Quantity" and "Unit Price" columns blank, as shown in *Figure 1*. The template will leave the "Total" column blank for that row of data.
5. List the non-taxable items in rows 43 through 46, as shown in *Figure 1*. Describe these services in the body of the form, but enter the totals for the non-taxable items in these rows.

The example in *Figure 1* also shows how you can use this area to issue a credit for a discount or for a client's earlier payment.
6. Issue an Apple-K to calculate and then save the invoice. You can only save 50 files in the root directory of your disk, so save the file in a subdirectory if you use 3.5-inch disks or a hard drive.

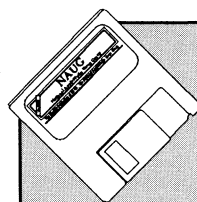
7. Issue an Apple-P, select "Columns", and highlight Columns A through I to print your invoice. If room permits, issue an Apple-O command and set attractive margins for your printouts.

Conclusion

This month's template demonstrates how small business owners can use unenhanced copies of AppleWorks to produce useful business forms. Next month we will enhance this simple template so it can serve as a more comprehensive receipt and invoice system for a small retail business.

[Stan Hecker is on the administrative staff at Michigan State University, East Lansing, Michigan, and is a partner in H&H Consulting, a Michigan concern specializing in school district financial and population analyses.]

[A working copy of this template appears on this month's issue of NAUG on Disk. NAUG on Disk costs \$10 from NAUG and requires a 3.5-inch disk drive. This template requires AppleWorks 3.0.]



NAUG on Disk

A monthly disk that saves you time and makes you more productive with AppleWorks. Each issue of NAUG on Disk includes:

- An electronic copy of the *AppleWorks Forum*.
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Prices are in U.S. Dollars. International orders by credit card only, international airmail postage additional. NAUG on Disk requires AppleWorks running on an Apple II or compatible equipped with a 3.5-inch disk drive. Many templates and macros require AppleWorks 3.0.

How to Use AppleWorks to Tabulate Survey Results

by David Ernest Johnson

Surveys are powerful tools that let you develop better marketing strategies for your business and improve the programs and services offered by your school or club. A good survey can help you track customers' needs and identify business opportunities. Accurate demographic data can help you plan programs or membership drives.

This article describes how you can use AppleWorks' data base module to analyze survey results. Classroom teachers can also use these techniques to find patterns of right and wrong answers in student responses to the questions on multiple choice tests.

Designing the Survey Questions

The most difficult task in creating a survey is preparing the right questions. AppleWorks cannot tabulate the answers to open ended questions (such as "Please describe what you like best about..."), so you must supply a range of numbered answers. Your task is to create a multiple choice test without any "right" answers.

Demographic questions are the easiest to write; see the examples in *Figure 1*.

If you are monitoring customer purchases or identifying your membership, you may only need this demographic information. But if you want to use the survey to evaluate your performance or to plan future activities, you will also need to ask subjective questions. You must frame these questions in a multiple choice format, and you must anticipate the possible range of responses. For example:

Figure 1: Sample Demographic Questions

1. My age is:
(1) under 21, (2) 21-25, (3) 26-30, (4) 31-35,
(5) over 35.
 2. How many computers do you own?
(1) One.
(2) Two.
(3) Three.
(4) More than three.
 3. My primary computer is an:
(1) Apple II, (2) II+, (3) IIe, (4) IIfx, (5) IIGS,
(6) None of these.
 4. I think our newsletter should have:
(1) more articles aimed at beginners and less advanced information.
(2) more tips for advanced users, fewer for novices.
(3) the same balance of introductory and advanced articles that we currently offer.
- You must consider two factors when writing these questions. First, keep each question narrowly focused. If the question is too broad, your respondents will want to give more than one answer. That will make your tabulation work difficult, if not impossible.
- If question 4 were written too broadly, it might come out as:
4. I think our newsletter should have:
(1) more articles for beginners.
(2) more tips for advanced users.
(3) more color photos.
(4) 6 pages rather than 4.

Figure 2: Analysis of Question #1

File: Student.Opinion			Page 1
Report: Analysis			
1	COUNTER	Percentages	

1	2	13.3	
2	5	33.3	
3	3	20.0	
4	4	26.7	
5	1	6.7	
	15*	100.0*	

Press Space Bar to continue			3138K Avail.

Your survey should be as short as possible because it is impractical to analyze more than 25 questions with AppleWorks. In addition, the fewer the questions, the greater the percentage of respondents who will return the survey.

Tabulating the Answers

After you administer the survey, you can use AppleWorks to tabulate the answers. You will start by entering the responses into an AppleWorks data base file. Then you can print reports that contain Group Totals and a calculated category to summarize the results. Your output will look like the example in *Figure 2*.

Follow these steps:

1. Create a new data base file called "ANSWER FORM" with 27 categories. Name the first 25 categories "1" through "25". Name Category 26 "Name/ID" to identify the source of the answers. Name Category 27 "Counter"; you will use this category to determine the number of records in each report.
2. Press the Escape Key, the Space Bar, the Return Key, and the Escape Key to create a blank record and enter Review/Add/Change mode.

3. Press Apple-V and insert the standard value of "1" in the Counter category. Then press the Return Key and the Escape Key to return to Review/Add/Change mode.

Now you will change the single record layout. Continue as follows:

4. Press Apple-L and move the categories so they match the layout in *Figure 3*.
5. Press the Escape Key to indicate that you finished changing the layout. Then select #2, "Left

Figure 3: Sample Single Record Layout

File: ANSWER FORM		CHANGE RECORD LAYOUT	Escape: Review/Add/Change
Return or arrows		Move cursor	
⌘ and arrows		Move category location	
⌘-T		Turn inverse names on/off	
=====			
NAME/ID:			
1:	2:	3:	4:
6:	7:	8:	9:
11:	12:	13:	14:
16:	17:	18:	19:
21:	22:	23:	24:
			25:
COUNTER:			

Use options shown above to change record layout.			3267K Avail.

Many respondents will find all four answers desirable and may give more than one answer.

Every item should contain mutually exclusive options so each respondent can make only one choice. Cover broad topics by breaking the area into several smaller questions.

On the other hand, your answers must provide as broad a range of choices as possible. Generally, five to seven choices will give you enough latitude without turning your survey into a major piece of literature. You do not need the same number of answers for each question. Also remember that you can use "(1) Yes, (2) No" questions.

General Interest...

to right, top to bottom" so the cursor scrolls through the categories as you enter your data.

Now you will change the multiple record layout. Continue as follows:

- Issue an Apple-Z to display the multiple record layout. Then press Apple-L to change the layout.
- Narrow each of the numbered categories to the width of the one and two-character category names. When you are done, all 25 categories will fit on the screen, as in *Figure 4*.

If your survey has fewer than 25 questions, you can make each column wider and push the unused categories off the screen. You do not need the Counter category on the multiple record layout screen. Then press the Escape Key twice to return to Review/Add/Change mode.

- Issue an Apple-S and save your work. Then use FileMaster or some other disk utility to lock the template. [Ed: See the article entitled "How to Lock Your Templates" in the May 1991 issue of the *AppleWorks Forum* for step-by-step directions that describe how to lock a template.] Your data base file can now serve as a template for all your future surveys.

How to Use the Template

Follow these steps to use the template:

- Issue an Apple-N and assign a meaningful name to the file. Then press the Return Key and the Escape Key.
- Enter the data from the first respondent. That is, type in the number of the answer given for each question. You can enter the data in either single or multiple record mode, but I prefer to work in

Figure 4: Sample Multiple Record Layout

```
File: ANSWER FORM          CHANGE RECORD LAYOUT    Escape: Review/Add/Change

-----
--> or <-- Move cursor
> 0 < Switch category positions
--> 0 <-- Change column width
0-D Delete this category
0-I Insert a previously deleted category
-----
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 NAME/ID
-----
-----
Use options shown above to change record layout          3260K Avail.
```

Figure 5: Survey Data in AppleWorks

```
File: Student.Opinion      REVIEW/ADD/CHANGE      Escape: Main Menu
Selection: All records

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 NAME/ID
-----
1 1 4 4 4 2 3 2 4 4 - - - - - - - - - - - - - 337822
2 3 5 4 3 5 1 1 3 5 - - - - - - - - - - - - - 337922
2 3 6 2 2 6 3 3 2 4 - - - - - - - - - - - - - 337140
2 1 4 4 5 4 2 2 2 4 - - - - - - - - - - - - - 336911
3 2 6 4 4 6 1 2 2 5 - - - - - - - - - - - - - 332978
3 4 4 5 5 4 1 2 2 4 - - - - - - - - - - - - - 331301
4 2 4 4 4 5 5 2 4 5 - - - - - - - - - - - - - 336878
4 4 5 4 4 5 3 3 4 4 - - - - - - - - - - - - - 337620
4 2 6 3 3 4 3 4 2 4 - - - - - - - - - - - - - 331988
3 4 4 5 5 4 1 2 2 4 - - - - - - - - - - - - - 331301
2 2 4 4 4 5 5 2 4 5 - - - - - - - - - - - - - 331678
5 4 5 4 4 5 3 3 4 4 - - - - - - - - - - - - - 334320
4 2 6 3 3 4 3 4 2 4 - - - - - - - - - - - - - 336888
2 3 6 4 5 6 2 2 3 4 - - - - - - - - - - - - - 334212
1 3 6 4 5 6 2 2 3 4 - - - - - - - - - - - - - 334612
-----
Type entry or use 0 commands          3260K Avail.
```

single record layout. Enter a zero if the respondent did not answer a question; that way you know that the respondent skipped the question and that you did not just leave the data out when you made your entries.

When you are done, your data will look like the example in *Figure 5*, which contains sample data for a 10-item survey given to 15 respondents.

- Issue an Apple-A command and arrange the records from "0-9" based on the responses to category "1". Then delete any blank records that appear at the top of the list. The number of

Figure 6: Report Format

```
File: Student.Opinion      REPORT FORMAT      Escape: Report Menu
Report: Analysis
Selection: All records

Group totals only on: 1
=====
--> or <-- Move cursor          ⌘-J Right justify this category
> ⌘ < Switch category positions ⌘-K Define a calculated category
--> ⌘ <-- Change column width   ⌘-N Change report name and/or title
⌘-A Arrange (sort) on this category ⌘-O Printer options
⌘-D Delete this category         ⌘-P Print the report
⌘-G Add/remove group totals      ⌘-R Change record selection rules
⌘-I Insert a prev. deleted category ⌘-T Add/remove category totals
=====
1      COUNTER Percentages
-A--- -B----- -C----- L
1      9999999999 999999999.9 N
2      9999999999 999999999.9 3
2      9999999999 999999999.9 9
=====
Use options shown above to change report format      3148K Avail.
```

Macro that Tabulates Survey Results

This macro makes it easy to perform your analyses. To use the macro, enter your data into the file, issue an Apple-P, press the Return Key, and select the "Analysis" report from the Report Menu. Then press <sa-P> to launch the macro. You will have to change the number "2" in the next to the last line of the macro to select "The screen" from your Printer Menu. [Ed: Step-by-step directions for compiling this macro appear on page 19 of the April 1992 issue of the *AppleWorks Forum*.]

```
P:<adb:      { Define the macro. }
left left:   { Move the cursor to column A. }
oa-G:        { Remove group totals from the current category. }
oa-D:        { Delete the current category. }
oa-I:        { Display the list of deleted categories. }
$0=getstr 2 : { Let user select a new category. Wait for a press }
              { of the Return Key. }
print $0: rtn: { Insert the new category. }
oa-G right rtn: { Calculate group totals on the new category. }
oa-A>3<rtn:    { Arrange the records in numerical order. }
oa-P>2<rtn rtn: { Print the report to the screen. }
oa-H>!        { Then print the screen. }
```

records now corresponds to the number of respondents to the survey. [Ed: If you use *AppleWorks 3.0*, issue an Apple-Z to switch to single record layout. The total number of records in the file appears just above the data in single record layout.]

Next, you will create a Tables Format Report that uses the Group Total and Calculated Category functions to analyze the data. Continue as follows:

4. Press Apple-P and create a new tables format "from scratch" named "Analysis".
5. Delete all the categories from the report except "1" and "Counter".
6. Put the cursor on the "Counter" category and issue an Apple-T to command "Totals". Accept the defaults of zero decimal places and one blank space.
7. Put the cursor on the "1" category and press Apple-G. Respond "Yes" to the "Totals Only" prompt. When you print your report the "Counter" category will display the number of respondents who selected answers of "1", "2", "3", "4", or "5" for question #1.

Now you will create a calculated category that will determine the percentage of respondents who gave each possible answer to the first question. Continue as follows:

8. Press the Tab Key twice to move the cursor to the right past the "Counter" category.
9. Press Apple-K to create a calculated category named "Percentages".
10. Enter the formula $B/X \times 100$, where "B" refers to column B and "X" is the total number of

records. In this example, enter the formula $B/15 \times 100$. Specify one decimal place and accept the default setting of one blank space.

11. Press Apple-T to tell AppleWorks to total this category. Otherwise the "Percentages" column will be blank when you print the report.

Your screen should now look like the example in Figure 6.

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12. Issue an Apple-P and print the report (see Figure 2).

The first column in the report lists the five possible answers to the first question. The second two columns contain the number and percentage of respondents who selected each answer. For example, Figure 2 indicates that two people (13.3% of the respondents) selected answer #1 to question 1. Five people (33.3% of the respondents) selected answer "2", and so on.

Analyzing the Remaining Questions

Now you can revise the report to print the results for question #2. Follow these steps:

1. Press the Space Bar to return to the Report Format Screen.
2. Put the cursor on the first category and press Apple-G so AppleWorks does *not* use this category as the basis for printing the group totals.
3. Press Apple-D to delete category "1".
4. Press Apple-I and insert category "2" in column A.
5. Put the cursor on category "2" and press Apple-G to order "Group Totals".
6. With the cursor on category "2", press Apple-A and arrange the records in numerical order.

Then print the report and repeat these steps to tabulate each question.

Conclusion

Setting up a format for survey analyses takes some time and effort. But the template you developed in this article can help you do your analyses with AppleWorks.

[David Johnson is a technical writer for Chipsoft, a developer of tax programs for Macintosh and MS-DOS computers.]

[Ed: A copy of the survey template appears on this month's issue of NAUG on Disk, which costs \$10 plus \$2 s/h per order from NAUG. NAUG on Disk requires a 3.5-inch disk drive. This template works with any version of AppleWorks.]

— If You Teach AppleWorks —

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The four lessons in this 24-page booklet describe how to create and manage AppleWorks data base files, how to create and print reports, and how to generate labels. An excellent resource to help you teach AppleWorks. \$5 plus \$1.50 s/h.

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Two New Products for the Apple IIGs

Apple IIGs owners can now choose between two new programs that make it easy to switch between 16-bit applications. Sequential Systems' Switch-It! and Seven Hills Software's The Manager both let you launch and run multiple 16-bit programs without quitting one application and launching the other. The advantages of this feature are obvious to anyone who uses 16-bit programs such as AppleWorks GS and HyperCard GS. However, neither Switch-It! or The Manager let you switch between 8-bit programs such as AppleWorks Classic and Publish It!.

Switch-It!

Sequential Systems' Switch-It! suspends the operation of one program while you run another. You switch between applications by selecting the application you want to run from the Switch-It! icon on the screen. Switch-It! comes with a Scrapbook NDA and ClipIt NDA that make it easy to "clip" text and graphics between applications.

Switch-It! requires an Apple IIGs equipped with a 3.5-inch disk drive (hard drive recommended), and at least 1.75 megabytes of RAM (4 megabytes recommended) running under System 6.0 or later.

Switch-It! is compatible with most, but not all, 16-bit programs. The documentation lists 57 programs that work with Switch-It!, including such popular applications as AppleWorks GS, ShrinkIt GS, GraphicWriter III, HyperCard GS, and HyperStudio. BeagleWrite and Print Shop GS are not listed as Switch-It! compatible programs.

NAUG members who want a copy of the compatibility list should send a self-addressed, stamped envelope to "Switch-It! List" at the NAUG address.

Switch-It! lists for \$79.95, but costs \$46.95 plus \$3.50 s/h directly from NAUG.

The Manager

Seven Hills Software, developers of GraphicWriter III, SuperConvert, and other Apple IIGs applications, announced the release of The Manager, which brings MultiFinder capability to the Apple IIGs.

The Manager lets you switch between applications by clicking on any open window on your Apple IIGs desktop. According to Seven Hills, The Manager supports multi-tasking for some applications and is compatible with most current system extensions.

The Manager requires an Apple IIGs running under System 6 and equipped with at least 2 megabytes of RAM (4 megabytes recommended) and a 3.5-inch disk drive (hard drive recommended).

The Manager lists for \$69.95. Until May 1, 1993, NAUG members can buy The Manager for \$44.95 plus \$3.50 s/h directly from NAUG.

Switch-It!, The Manager, and all products distributed by NAUG are covered by the group's "satisfaction guaranteed or your money back" policy.

[Sequential Systems, 1200 Diamond Circle, Suite M2, Lafayette, Colorado 80026; (800) 759-4549; Fax: (303) 665-0933.]

[Seven Hills Software, 2310 Oxford Road, Tallahassee, Florida 32304; (904) 575-0566; Fax: (904) 575-2015.]

Corrections

February 1993, page 2: Change the "System 6 Driver Needed" letter so it indicates that Applied's High Density Drive can store 1.6 megabytes of data on a high density disk under System 5.x.

February 1993, pages 23 and 24, Figures 1 and 2: Change the eleventh line in each macro to `print chr$ 13:`

An Easier Way to Change Your Data Base Layouts

by Keith Johnson

AppleWorks makes it easy to change your data base layouts. Issue an <oa-L> command and you can arrange the categories in any pattern you like on your single record or multiple record layout screen. (See *Figure 1*.)

But the process of rearranging the categories is tedious because you must use the arrow keys to move the cursor. AppleWorks does not let you quickly jump from category to category as you rearrange your screen.

The macros in *Figure 2* speed up the process. Once you install the macros you can use the <sa-left> and <sa-right> keystrokes to jump to the adjacent categories on the single record layout screen. The same macros jump between categories when you create a labels format report and between words within a category in both single record and multiple record layout in REVIEW/ADD/CHANGE mode.

How to Use the Macros

Follow these steps to use these macros:

1. Type the macros into your macro file. If you use the <left> or <right> tokens for other macros, either re-define the keystrokes for the new macros or make certain they come *before* your current <left> and <right> macros. Otherwise, UltraMacros will never get to the new macros while you work.
2. Compile the file and save it as your default macro set. [Ed.: Step-by-step directions for

Figure 1: Rearranged Single Record Layout

File: CONTACTS	REVIEW/ADD/CHANGE	Escape: Main Menu
Selection: All records		
Record 609 of 635 (635 selected)		
=====		
FNAME: -	LNAME: -	
ORGANIZATION: -	TITLE: -	
ADDRESS1: -		
ADDRESS2: -		
CITY: -	STATE: -	ZIP: - PHONE: -
NOTE: -		
NOTE: -		
NOTE: -		
DATE: -	16: - 15: - 14: - 13: -	
	12: - 11: - 10: - 9: - 8: - 7: - 6: - 5: - 4: - 3: - 2: - 1: -	

Type entry or use ⌘ commands		124K Avail.

adding the macro to your default macro set appear in a sidebar on page 19 of the April 1992 issue of the AppleWorks Forum.]

3. Go to the single-record layout (use <oa-Z> if necessary) and press <oa-L> to go to layout mode. Then use the <sa-right> keys to jump to the beginning of the next word on the screen. Press <sa-left> to jump to the previous category.

If there are no more words to the right when you press <sa-right>, the cursor will jump to the beginning of the next line. If there are no more words to the left when you press <sa-left>, the cursor will go to the first column.

The keys perform the same functions with a labels format report on your screen.

Figure 2: Data Base Cursor Jump Macros

```
<right>:<adb>< { Define the data base macro that jumps to the next word. }
n = 0: { Initialize a counter. }
begin: { Begin a loop that looks for the end of the current word. }
if n > 78: { If you checked 78 spaces you must be at the end of a line... }
rtn: { ...so go to the next line... }
endmacro: { ...and stop the macro. }
endif: { If you did not check 78 spaces... }
c = peek $10f5: { ...read the character under the cursor. }
ifnot c = 160: { If it's not a space... }
right: { ...move the cursor one character to the right... }
n = n + 1: { ...increment the counter... }
rpt: { ...and check the next character. }
else: { If it is a space... }
begin: { Begin a loop that looks for the next non-space character. }
if n > 78: { If you are at the end of a line... }
rtn: { ...go to next line... }
endmacro: { ...and stop the macro. }
endif: { If you are not at the end of a line... }
c = peek $10f5: { ...read the character under the cursor. }
if c = 160: { If it's a space... }
right: { ...move right one space... }
n = n + 1: { ...increment the counter... }
rpt: { ...and check the next character. }
else: endmacro> { If it's a character, stop the macro. }

<left>:<adb>< { Define the data base macro that jumps to the left. }
n = 1: { Initialize the counter. }
left: { Move left one character. }
begin: { Begin loop that looks for the beginning of the current word. }
if n > 78: { If you checked 78 spaces you are at beginning of a line... }
endmacro: { ...so stop the macro. }
endif: { If you did not check 78 spaces... }
c = peek $10f5: { ...read the character under the cursor. }
if c = 160: { If it's a space... }
left: { ...move left... }
n = n + 1: { ...increment the counter... }
rpt: { ...and check the next character. }
else: { If it's not a space... }
begin: { Begin a loop that looks for the beginning of the word. }
if n > 78: { If you are at the beginning of the line... }
endmacro: { ...stop the macro. }
endif: { If you are not at the beginning of the line... }
c = peek $10f5: { Read the character under the cursor. }
ifnot c = 160: { If it's not a space... }
left: { ...move left... }
n = n + 1: { ...increment the counter... }
rpt: { ...and repeat the loop. }
else: { If it is a space... }
right: { ...move right, back to the first character... }
endmacro> { ...and stop the macro. }
```

4. You can also use these macros in the regular REVIEW/ADD/CHANGE mode. Just go to an entry that contains more than one word and press <sa-right>. The cursor will jump to the

beginning of the next word. If there are no more words to the right, the cursor will jump to the same category in the next record. <sa-left> will jump the cursor to the previous word in the category. If the cursor is already on the first character of the first word, it will remain there.

Technical Details

I faced some interesting challenges when writing these macros. For instance, the <sa-left> macro must stop when the cursor reaches the left-most column on the screen. If I could read the cursor position directly, I could include a test for that. But the <#curhor> label in UltraMacros 3.1 does not work in the report format mode or in REVIEW/ADD/CHANGE mode.

I considered using the <onerr> command so it could detect when the cursor "bumped" into the left edge of the screen. But bumping into the left edge of the screen does not trigger an error beep when you change a single record layout or a labels format

report; the cursor simply remains in the left-most column.

The only solution I could devise was to count how many times the cursor had been moved. If the total

My Favorite Macro...

reached 78, the cursor would already be at the edge of the screen, and the macro could safely stop. That slows things down, but most users will not notice it. Moreover, you will not be using that portion of the code if you use the macros correctly.

NAUG members are a creative group, and I would like to hear from anyone can think of a more elegant way to solve this problem. And, as always, please send me any macros that you think might interest your fellow members.

[Keith Johnson is Associate Director of the Fleischmann Planetarium at the University of Nevada.]

[Ed: These macros also appear on this month's issue of NAUG on Disk, which costs \$10 plus \$2 s/h from NAUG. NAUG on Disk requires a 3.5-inch disk drive. The macros require AppleWorks 3.0 enhanced with UltraMacros 3.1. An annual subscription to NAUG on Disk costs \$90.]

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AppleWorks News

Late News for AppleWorks Users

JEM Software

JEM Software announced the release of Ultra 4.2, an update to the company's macro program for AppleWorks 3.0. A description of the new features in Ultra 4.2 and information about getting the product appear in the sidebar on page 25 of this issue of the *AppleWorks Forum*.

JEM also announced that Randy Brandt, developer of UltraMacros and Ultra 4, is available for contract macro programming. For more information, contact the company.

[JEM Software, 7578 Lamar Court, Arvada, Colorado 80003. Orders and fax: (303) 422-4856; follow the voice prompts to send a fax.]

MECC

The Minnesota Educational Computer Corporation (MECC), recently announced the availability of low-cost building-level licenses and the direct distribution of MECC software to individual school buildings. Schools that use MECC software should contact the company for additional information.

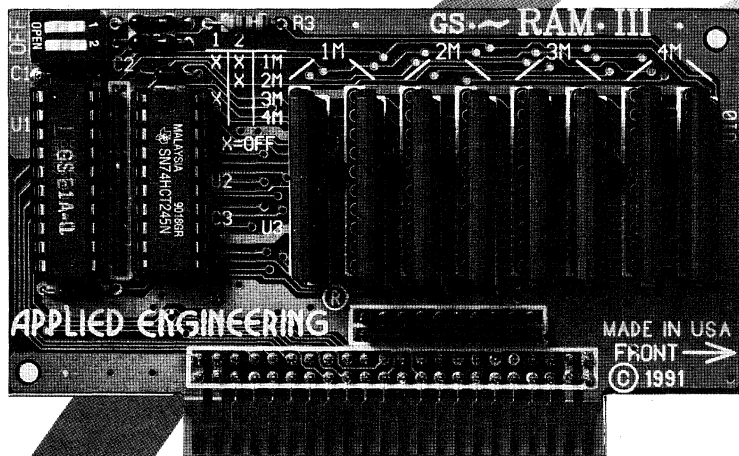
[MECC, 6160 Summit Drive North, Minneapolis, Minnesota 55430; U.S.: (800) 685-MECC; Canada: (800) 663-7731; International: (612) 569-1500.]

MultiTech Systems

NAUG members who want to learn the basics of telecommunications should write for a free booklet entitled "The Basics of Modem Operations". This 42-page booklet, distributed free by MultiTech systems, provides clearly written and easy-to-understand answers to questions such as "What is a modem?", "How do I install a modem?", and "How do I install communications software?". The booklet can also serve as an excellent text for a unit on telecommunications in a high school or post-secondary setting.

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Express Speeds Up Your 16-Bit Printing

by Ira M. Garvin

AppleWorks spoils you. You send a document to print and it zips out of the printer as fast as three pages per minute. But switch to a 16-bit program like AppleWorks GS or Platinum Paint, and things change. The quality of your output improves dramatically. But just as dramatic are the long delays you face while you wait for those printouts.

The difference in speed occurs because of the different ways these programs produce their output. AppleWorks uses the character sets built into the printer. Each 8-bit byte of data is actually a command that tells the printer which character to print on the page.

Sixteen-bit programs like AppleWorks GS use the printer's graphics capability to produce more attractive output. But that requires a complex process that slows down the printing.

How Printing Works

Schematically, printing from 16-bit applications is a three step process. First, your computer "rasterizes" the image that will appear on the final document. That creates the pattern of dots that you will ultimately print on the page. Second, the computer sends the dot pattern to the printer. Finally, the printer produces the image it received from the computer.

Figure 1: Speed Tests with Express

Sample Document	Without Express	With Express
1 page Platinum Paint document, standard quality	2:30	:10
5 page AWGS word processor document, best quality	4:46	1:12
2 page AWGS page layout document, best quality	3:28	1:45
23 page AWGS database document, standard quality	16:32	4:15

All tests conducted on an Apple IIGS equipped with a 9-megahertz Zip accelerator, System 6.0, Express 2.0, Pointless 2.0, and an ImageWriter II printer.

Unfortunately, your computer does have the power to rasterize the complete page, so it rasterizes the first lines of the document and then sends that dot pattern to the printer. The computer waits while the printer produces those dots and sends an "OK" signal back to the computer. Your IIGS then rasterizes the next set of lines and sends them to the printer. Thus, your printer waits while the computer rasterizes the document, and your computer waits while the printer produces the rasterized image.

That explains why you have time to watch the news while your system prints your documents.

How to Get Faster Output

Fortunately, there are three ways to speed up your printing. First, you can accelerate your computer, which reduces the time it takes for your system to rasterize the image. Second, you can buy a faster printer, which speeds up the mechanical part of the process. Third, you can use Express, Seven Hills Software's "print spooler" program. Express cap-

Express 2.0

As this issue went to press, Seven Hills was putting the finishing touches on version 2.0 of Express. Look for these differences in version 2.0 of the program:

1. **Faster performance:** Version 2.0 is significantly faster than earlier versions of Express, especially if you use a serial printer.
2. **Greater control:** Version 2.0 lets you determine where Express stores its spool files. That accommodates users who establish a large data partition on their hard drive.
3. **Support for parallel printers:** Version 2.0 lets you adjust the print speed for your parallel card.
4. **Support for multiple copies:** Express 2.0 lets you print multiple copies from the spooler instead of the application. You can spool one copy and let Express print as many copies as you need.
5. **Control over the flow of data that goes to the printer:** Express 2.0 lets you control the flow of data that goes to the printer. That lets you slow down your output and reduce any jerkiness you might experience with the spooler running in the background.

Express 2.0 will sell for \$49.95, but see the special NAUG offer for Express 2.0 at the end of the accompanying article. Registered owners of earlier versions of Express will receive an upgrade notice that lets them buy version 2.0 for \$16. Updates are free to owners who bought Express after January 1, 1993; call Seven Hills for information about this upgrade.

tures the rasterized image and manages the communications with your printer. That lets you use your computer for other tasks while Express handles the rest of the printing process.

How to Use Express

Express works with any Apple IIGS computer equipped with a hard drive and any "direct connect" (non-network) printer except a StyleWriter. It

How to Speed Up AppleWorks

Although AppleWorks prints significantly faster than the graphic-based 16-bit programs, AppleWorks' printing process can still test your patience. Fortunately, there are inexpensive hardware solutions, called "print buffers", that accelerate the process.

A print buffer is a collection of memory chips that "capture" the characters and commands AppleWorks sends to the printer. Like a spooler, the buffer then releases the computer while it manages the communications with the printer.

Buffers are more convenient than spoolers because they work without accessing your hard drive or CPU; once you send the document to the buffer, you regain complete control of your system. External buffers also have "Copy" and "Clear" switches that let you make multiple copies or cancel your output without disturbing your computer.

However, print buffers are more expensive than spoolers, and reasonably priced buffers cannot store the large amount of data created by the rasterized images prepared by 16-bit programs like AppleWorks GS.

If you own an ImageWriter II, you can add a 32K buffer to the memory built into the printer. For example, NAUG sells Sequential Systems' Q-Buff card for \$44.95 (List: \$79.95).

NAUG also uses a combination serial-to-parallel converter/buffer made by Black Box Corporation. But to confuse things, Black Box calls the unit a "spooler". The unit (part number GT-PIC95A) costs \$190 equipped with 64K of RAM. Contact the company for a catalog.

But do not try a buffer or spooler unless you are ready to buy. Once you try one, there is no going back.

[Black Box Corporation, Box 12800, Pittsburgh, Pennsylvania 15241; (412) 746-5530; Technical questions: (412) 746-5565.]

works with all 16-bit Apple IIGS programs running under System 5.0.4 or System 6.0.

Software Review...

Installing and using Express is easy. You boot your computer, insert the 3.5-inch Express disk, launch the Express "install" program, wait while Express installs itself on your system, and reboot your computer. From that point on, Express will automatically spool your rasterized document into an "Express Spools" file in the `*:System:Express.Spools` directory it creates on your hard drive. Once spooled, Express releases the computer while it manages the rest of the printing process.

Enhanced Productivity

Of course, Express cannot accelerate the actual printing process. Rasterizing the image, sending the signals to the printer, and producing the final output do not go faster with Express. What does change is how long you wait before you can use your system. For example, consider the data in *Figure 1* which indicates how long I had to wait after sending different documents to my printer. I conducted these tests using Express 2.0 on a system equipped with a 9-megahertz Zip accelerator and Pointless 2.0, but it is the relative time, not the actual numbers, that interest us.

As you can see from these data, Express significantly reduces the time you have to wait for your system.

Other Effects

Express continues to work in the background after it "releases" the computer. Specifically, the program manages the communications with the printer and sends it the next set of rasterized data each time the printer transmits an "OK" signal to your computer. Thus, Express causes short delays and "jerky" mouse movements if you move the cursor or perform an operation while Express is interacting with the printer.

The faster your computer, the less troublesome the interruptions. On my accelerated system I could continue to work normally during the spooling process. But owners of unaccelerated systems would want to avoid mouse-sensitive activities (such as drawing a detailed object) while Express spools your output to the printer. [Ed: According to Seven Hills, Express 2.0 lets you control the amount of

data you send to the printer and thus reduces any jerkiness caused by the spooler.]

Incompatibilities and Other Problems

I encountered two problems using Express. First, the program proved incompatible with Utility Launch, the program launcher that came with my hard drive. I switched to QuickLaunch (Seven Hills' System 6.0 Finder Extension Extra that I downloaded from America Online) and the problem disappeared.

My other concern was an incompatibility I discovered between AppleWorks GS and version 1.0 of Express. Seven Hills explained the problem and uploaded version 1.1 to me the day after I notified the company.

My contacts with Seven Hills were most pleasant. The company, which provides support through all the major on-line services, was helpful and responsive.

Conclusion

If you use AppleWorks GS or other 16-bit applications on your system, you should use Express. The program dramatically improves your productivity and is a bargain at \$49.95. Install Express on your system and you will never again dread the long waits you experience when printing your documents.

[Ira M. Garvin is a Social Studies Teacher at West Hempstead High School in Long Island, New York. You can reach him as "TeacherIra" on America OnLine.]

[Express lists for \$49.95. Until May 1, 1993 NAUG members can buy Express 2.0 directly from NAUG for \$34.95 plus \$3.50 s/h.]

Want to Learn More about Ultra 4?

Randy Brandt, author of the Ultra 4 Primer articles in the *AppleWorks Forum*, wants your ideas for new articles. Please describe general issues of interest, not specific questions about your macros. Mail or fax your suggestions to: Ultra 4 Primer, NAUG, Box 87453, Canton, Michigan 48187; Fax: (313) 454-1965.

1040Works Update

Here is a complete list of the known problems with the 1992 versions of 1040Works and 1040Works-X as of February 17, 1993:

Problem: 1040Works-X TaskMaster Installer fails at bootup

This problem affects only 1040Works-X owners (a) who do not have TimeOut UltraMacros, (b) want to use the 1040Works-X macros, and (c) did not install TaskMaster last year.

Solutions: Any one of the following three changes will solve this problem:

1. If you have last year's copy of 1040Works-X, boot that disk and install TaskMaster, or...
2. Use BASIC to rename the files TASKX.20.SYSTEM, TASKX.30.SYSTEM, MACROX. 20.TASK, and MACROX.30.TASK to TASK.20.SYSTEM, TASK.30.SYSTEM, MACROS. 20.TASK, and MACROS.30.TASK respectively, or...
3. Call or fax NAUG for a new copy of the installer.

Problem: 1040Works does not calculate the correct tax on Schedule D.

This problem affects only 1040Works (not 1040Works-X) users who get a significant portion of their income from capital gains.

Solution: Load the SCHEDULE.D template onto your desktop, go to cell J30, issue an Apple-U command, and replace the @ERROR statement in the formula with J4. The complete formula should look like this:

`@IF(G75>0,@CHOOSE(J4+1,0,21450,35800,17900,28750,35800),0)`

Then press Apple-S to save the template. 5.25-inch disk users will get a message indicating there is not enough room on the disk. Select "Yes" to tell AppleWorks to delete the earlier copy of the SCHEDULE.D template from the disk.

Problem: 1040Works Schedule D prints with the wrong margins.

This problem affects 1040Works (not 1040Works-X) users who must file a Schedule D.

Solution: Load the SCHEDULE.D template onto your desktop, issue an Apple-O command, and set the margins as follows:

`LM=.3, RM=.2, TM=.5, BM=.5`

Then press Apple-S to save the template. 5.25-inch disk users will get a message indicating there is not enough room on the disk. Select "Yes" to tell AppleWorks to delete the earlier copy of the SCHEDULE.D template from the disk.

Problem: MODULE.TWO of 1040Works generates an error message in cells O33, I57, and J61.

This problem affects only 1040Works users who use AppleWorks 1.x. The problem does not affect AppleWorks 2.x, 3.x, or 1040Works-X users.

Solution: Load the MODULE.TWO template onto your desktop, go to cell O33, issue an Apple-U command, switch to the insert cursor, and add >0 following P31 and P30 within each @IF statement. The complete formula should look like this:

`@IF(P31>0,P29-P33,@IF(P30>0,0,P29-P33))`

Then go to cell I57, issue an Apple-U command, and add >0 following the reference to I58 in the formula. The complete formula should look like this:

`@IF(I58>0,J50,0)`

Then go to cell J61, issue an Apple-U command, and add >0 following the reference to I58 in the formula. The complete formula should look like this:

`@IF(I58>0,MAX(J53-J59,0),0)`

Finally, press Apple-S to save the template. 5.25-inch disk users will get a message indicating there

is not enough room on the disk. Select "Yes" to tell AppleWorks to delete the earlier copy of the MODULE.TWO template from the disk.

Problem: MODULE.TWO of 1040Works does not include the deduction for the points paid on a mortgage.

This problem affects only 1040Works (not 1040Works-X) users who report a deduction for "points paid on a mortgage but not reported to them on a Form 1098".

Solution: Load the MODULE.TWO template onto your desktop, go to cell D40, issue an Apple-U command, and change the formula to `@SUM(D31...D39)`.

Then press Apple-S to save the template. 5.25-inch disk users will get a message indicating there is not enough room on the disk. Select "Yes" to tell AppleWorks to delete the earlier copy of the MODULE.TWO template from the disk.

This problem also appeared in last year's templates. If you used 1040Works (not 1040Works-X) last year and claimed a deduction for points not reported on a Form 1098, make this change to your 1991 templates, recompute your taxes, and file a Form 1040X to claim your refund.

NAUG immediately posts all 1040Works bug reports and fixes on its electronic services including NAUG's AppleWorks bulletin board, the Electronic Forum, and in the NAUG areas on America Online, CompuServe, and GENie.

Recent Changes to OmniPrint

Kitchen Sink Software is now the publisher of OmniPrint, an AppleWorks 3.0 enhancement that makes it easy to use the features built into the ImageWriter II printer.

OmniPrint lets you include MouseText, color, mixed characters per inch settings, half-height characters, near letter quality and draft quality, over-strike characters, diacritical marks, foreign language characters, and slashed zeros in your AppleWorks word processor documents. OmniPrint, which prints at normal AppleWorks speed, also lets you download and use customized fonts and lets you create borders with special graphics fonts included with the program. (A complete description of OmniPrint appeared on page 24 of the September 1992 issue of the *AppleWorks Forum*.)

Kitchen Sink's version of OmniPrint includes a 38-page plastic-bound manual and two sheets of quick reference notes. Kitchen Sink also reorganized the sample files so you can use the files on 128K Apple II systems.

OmniPrint lists for \$49.95. Until June 1, 1993, NAUG members can buy the program directly from Kitchen Sink for \$30 plus \$3 s/h (\$8 s/h to Canada; \$13 s/h to all other countries). This is a special pre-paid price valid on orders accompanied by a check or money order or billed to a credit card. Purchase orders: \$5 additional. Ask for the "Special NAUG Offer", include your NAUG membership number, and indicate whether you want a 5.25-inch or 3.5-inch disk copy of the program when you order.

OmniPrint comes with a 30-day money back guarantee from Kitchen Sink.

[Kitchen Sink Software, 903 Knebworth Court, Westerville, OH 43081; Orders only: (800) 235-5502; Voice: (614) 891-2111.]



MOVING?

Remember to notify NAUG if you change your address. Do not rely on the post office to forward your mail; you may miss some issues. Send address changes to NAUG; Box 87453; Canton, MI 48187.



Connect with the NAUG Bulletin Board

Call the Electronic Forum, NAUG's popular AppleWorks bulletin board. Call (615) 359-8238 at 300, 1200, or 2400 baud or (615) 359-8140 at 9600 baud.

How to Use Extended Variables

by Randy Brandt

This is the sixth in a series of articles that describes how to use the new features of Ultra 4. The author assumes that you know the basics of TAPL (The AppleWorks Programming Language), that you read the prior articles in this series, and that you installed version 1.1 of Ultra 4.1 or Ultra 4.2 in your system.

This article describes the extended numeric variables supported by Ultra 4 and the dot commands you can use to access them. It also describes how to use Debug to examine and modify these variables.

What Are Extended Variables?

Ultra 4 supports up to 26 “extended variables”, numeric variables that let you manipulate large positive and negative numbers with up to two decimal places. You can use these extended variables and Ultra 4’s standard and extended variable commands to create TAPL programs that perform financial and other calculations without accessing AppleWorks’ spreadsheet module.

Ultra 4 stores the extended commands in the Math Dot Command Set (found in the I.U.M.MATH file) which you must copy into your AW.INTS directory.

Some Background

Ultra 4’s normal numeric variables (variables A(0) to Z(9)) can store positive whole numbers ranging from 0 to 65535. These limits reflect the two bytes allocated to each variable. (One 8-bit byte can hold a value ranging from 0-255 (\$FF hex); two bytes can hold 65536 possible values, or 0 through 65535 (\$FFFF hex).) The two bytes allocated for each standard variable do not provide the space necessary to store negative numbers or decimal places.

However, Ultra 4 lets you define variables `A through `Z as “extended variables”; the program allocates four bytes to each of these variables. The

Figure 1: Comparison of Extended and Normal Variables

	<u>Extended Variables</u>	<u>Normal Ultra 4 Variables</u>
Lowest:	-21,474,836.47	0
Highest:	21,474,836.47	65,535
Max. Result of Multiplication:	214,748.36	65,535

accent grave (`), which shares the same key as the tilde (~), signifies an extended variable.

Since Ultra 4 reserves one bit to indicate if the number is positive or negative, the largest possible value is 2,147,483,647 (\$FFFFFFF hex). Each variable can contain up to two decimal places, so you must divide that number by 100 to end up with a possible range of numbers between -21,474,836.47 and 21,474,836.47.

This approach works well for addition and subtraction, but causes a problem with multiplication and division where the result must accommodate four decimal places. The two decimal place limitation lets you use multiplication and division with answers no greater than 214,748.36. (If the result of a multiplication can be greater than 214,748.36, you can use a for-next loop to add the number the desired number of times. That accommodates results up to more than 21 million.)

Figure 1 summarizes the differences between extended and normal Ultra 4 variables.

Using Extended Variables

Two commands do the majority of the work with extended variables: <.xMath> handles all equations, and <.xStr> makes the results displayable. You use the remaining mathematics commands infrequently.

<.xMath>

You use the <.xMath> command to define a variable. The syntax is <.xMath> followed by a string that contains the extended variable equation. You identify the extended variable with a preceding “” symbol. For example:

```
A:<all .xMath "`A = -12345678.90">!
      // define a very small number
```

The equation always starts with a definition, such as “A=” and can include addition, subtraction, division, and/or multiplication with extended variables, regular Ultra variables, or literal values.

However, each <.xMath> command can define only one extended variable. For example:

```
B:<all .xMath "`A = -12 : `B = C * 2">!
      // illegal
B:<all .xMath "`A = -12" : .xMath = "`B = C * 2">!
      // okay
```

As noted earlier, <.xMath> uses a string parameter to define its equations. (Users often forget that Ultra 4 passes a single string to such a command, regardless of how that string is built.) The string can be literal text (as in the preceding examples), a string variable, or a string equation.

For example, you can use the <cell> command to build a string. The following macro uses the current spreadsheet cell to define an extended variable:

```
C:<asp
  $1 = cell      // read a spreadsheet cell
  .xMath "`A = " + $1>!
      // define `A with cell contents
```

If the spreadsheet cell contains 50.3, the <cell> command assigns that value to \$1. Ultra then passes “A=50.3” to <.xMath>. (The plus sign in the macro has nothing to do with extended variables; it’s an Ultra string concatenation command to connect the “A=” literal string with the \$1 string variable.)

You can eliminate a step by making <cell> part of the <.xMath> equation as follows:

```
C:<asp .xMath "`A = " + cell>! // read a cell
```

Use <msg> As a Debugging Tool

Now it is time for a little exercise. Examine the fol-

A Bit of History

Mark Munz wrote a set of Ultra 4 math commands before he left the Apple II world to work on the new incarnation of BeagleWorks at WordPerfect Corporation. Unfortunately, some serious bugs appeared, so I reworked the commands, changed their names, reorganized the command set to make it easier to understand and use, and made several other bug fixes and improvements. I released those improvements as version 1.1 of Ultra 4.1.

NAUG distributed the version 1.1 updates on the February 1993 issue of **NAUG on Disk** and through NAUG’s electronic services, including NAUG’s Electronic Forum and the NAUG areas on CompuServe, America Online, and GENie.

After releasing version 1.1, I continued to enhance Ultra 4 and I just released Ultra 4.2. Ultra 4.2 includes all the features of Ultra 4.1 version 1.1 and three new dots commands that (a) make it easier to draw vertical lines on the screen, (b) strip any character you specify from a string, and (c) use any delimiter you specify for .menubar. Ultra 4.2 also lets you turn on single stepping from within Debug.

The sample macros in this article require version 1.1 of Ultra 4.1 or Ultra 4.2.

NAUG will include the Ultra 4.2 upgrades on this month’s issue of **NAUG on Disk** and will distribute the upgrades through all its electronic services. The upgrades will also appear on the March issue of TimeOut Central. Ultra 4.1 owners who do not have access to these sources can order the update disk directly from JEM Software for \$5 plus \$3 shipping and handling.

The free upgrades let you move from any version of Ultra 4.1 to Ultra 2. Upgrades from Ultra 4.0 to Ultra 4.2 cost \$20 directly from JEM. (NAUG members can upgrade for \$15 plus \$3 s/h; include your NAUG membership number with your order.)

With my release of Ultra 4, two versions of Ultra 4.1, and Ultra 4.2, I have demonstrated my mastery of the art of confusion. NAUG members who have a good sense of humor and who can think of better ways to confound my supporters should send their suggestions to the JEM office.

Figure 2: Macro Demonstrating <.xStr>

```
E:<all
.xMath ``A = 546.32 * 3.78"    // math equation
$2 = .xStr A                  // convert `A to a string
msg $2>!                      // display the string
```

You can simplify the macro by eliminating the \$2 definition:

```
E:<all
.xMath ``A = 546.32 * 3.78" : msg .xStr A>!
```

Figure 3: Macro Demonstrating <.xCompare>

```
F:<all
.xmath ``A = 245.13"          // Define A.
.xmath ``B = 36.7"           // Define B.
                                // In a normal string comparison,
                                // 36.7 is considered larger than
                                // 245.13 because the comparison starts
                                // with the first character.

$1 = .xcompare A              // Convert variable A.
$2 = .xcompare B              // Then convert variable B.
                                // Compare the numbers and indicate
                                // their relationship.

$3 = "="                      // Assume they are equal.
if $1 > $2 then $3 = ">" else  // Is A > B?
if $1 < $2 then $3 = "<" endif // Last comparison.
msg ``A " + $3 + " `B">!     // Display the relationship.
```

Figure 4: Macro Demonstrating <.xFixed>

```
G:<all
.xFixed 128                   // No trailing 0's in displayable result.
X = 54321                     // Define a regular Ultra variable.
.xMath ``Z = 240.37 * X"      // Multiply the Ultra variable by 240.37.
msg .xstr Z                   // Convert `Z to a string and display it.
.xFixed 2>!                   // Restore the default setting.
```

Figure 5: Macro Demonstrating <.xIntegers>

```
H:<all: A(1) = 99               // Treat Ultra variables as integers
                                // (dollars) using the default setting.
.xMath ``A = 1 + A(1)"        // Define Ultra variable.
                                // `A is now equal to 100.
msg "1 + A(1) = " + .xstr A>! // Display the result.

I:<all: A(1) = 99               // Treat Ultra variables as hundredths
                                // (pennies).
.xIntegers #False             // Define Ultra variable.
                                // Treat Ultra variables as hundredths.
.xMath ``A = 1 + A(1)"        // `A is now equal to 1.99
msg "1 + A(1) = " + .xstr A> // Display the result.
.xIntegers #True>!           // Restore the default setting.
```

lowing macro and try to figure out what is wrong:

```
D:<all $1 = "5.2" :
.xMath ``A = `A" + $1>!
```

Give up? Try running the following macro which replaces the <.xMath> command with a <msg> command so you can see the string that it builds:

```
D:<all $1 = "5.2" :
msg ``A = `A" + $1>!
```

The error becomes obvious. <.xMath> sees “`A = `A5.2” and is understandably confused. Here’s the correct approach:

```
D:<all $1 = "5.2" :
.xMath ``A = `A" + $1>!
```

Now <.xMath> sees “`A = `A + 5.2” and calculates the result successfully.

Using <msg> to see how Ultra interprets your strings offers you a powerful debugging technique. Use it any time that you have a problem with a string-related command.

<.xStr>

The <.xStr> command is the extended variable equivalent of the <str\$> command that you use with normal variables. <.xStr> converts an extended variable to a string that you can display with <msg> or <print>. You name the extended variable by its letter; do not precede the variable with a “`”.

The examples in *Figure 2* define an extended variable, use <.xStr> to convert it to a string, and then display the result.

You can use string commands such as <.xStr> to return a string result to a variable name, as in

<\$1 = .xStr A>, or return a string to another command requiring a string parameter, as in <msg .Xstr A>.

<.xCompare>

The <xCompare> command converts extended variables into special strings that you can compare using <if> or <ifnot> statements even if negative numbers and decimals are involved.

The macro in *Figure 3* demonstrates an application of <.xCompare>.

<.xFixed>

The .xFixed command sets (“fixes”) the number of decimal places used by <.xStr> when it converts an extended variable into a displayable string. Legal values are 0, 1, 2, and 128. 128 indicates “appropriate”, which strips all the trailing zeros. The default value for <.xFixed> is “2”.

The macro in *Figure 4* uses <.xFixed> to change the setting to “appropriate”. It resets the default after the macro displays the extended value.

<.xIntegers>

The <.xIntegers> command determines how the <.xMath> command uses normal Ultra 4 variables. The default setting is “1” (#True) which tells <.xMath> to treat the variables as whole numbers (integers). Ultra treats the units as hundredths if you change the setting with <.xIntegers #False>.

To clarify the concept, think of integers as dollars and hundredths as pennies. Consider the sample macro in *Figure 5*.

Debug and Extended Variables

Ultra 4’s Debug program lets you view and modify extended variables. Just press Open-Apple-Ctrl-X (Open-Apple-Clear on the Apple IIGs) to activate Debug. Then press Open-Apple-X to access the extended variables and display the screen in *Figure 6*.

Figure 6: Debug Screen Displaying Extended Variables

None Ultra Debug v2.2 Copyright 1992 Mark Munz & Randy Brandt			

Extended Variables			
`A :	-0.03	`N :	0.00
`B :	123456.78	`O :	0.00
`C :	0.00	`P :	0.00
`D :	0.00	`Q :	0.00
`E :	0.00	`R :	0.00
`F :	0.00	`S :	0.00
`G :	0.00	`T :	0.00
`H :	0.00	`U :	0.00
`I :	0.00	`V :	0.00
`J :	0.00	`W :	0.00
`K :	0.00	`X :	0.00
`L :	0.00	`Y :	0.00
`M :	0.00	`Z :	0.00
xFixed (fix decimal places at 0, 1, 2, or use 128 for appropriate): 2			
xIntegers (treat Ultra variables as hundredths if 0 or integers if 1): 1			

Type variable name to modify: _			01/29/93 11:44 am

Debug displays the current value for each extended variable and the current <.xFixed> and <.xIntegers> settings. You can change the value of a variable within Debug, but you can only change the value of <.xFixed> and <.xIntegers> from within a macro.

To modify the value of an extended variable, press the letter associated with that variable, enter the new value, and press the Return Key. Then press the Escape Key to exit the Extended Variables screen.

Conclusion

As you can see, Ultra 4’s extended variables can add flexibility and power to your macros. These variables let you perform financial and other numeric calculations completely within Ultra 4 and eliminate the need to transfer your data into an AppleWorks spreadsheet.

This article described how to use the extended variable dot commands to perform mathematical calculations. You also learned how to view and modify these variables with Debug. Finally, you learned how to use the <msg> command to examine any string passed to a command.

[Randy Brandt, who owns JEM Software, is the author of TimeOut UltraMacros, Ultra 4, and numerous AppleWorks enhancements. GENie users can contact Randy in category 34 of A2Pro. Others can write to him at 7578 Lamar Court, Arvada, Colorado 80003, or send a fax to (303) 422-4856.]

Late News for AppleWorks Users

Apple Computer

NAUG members who are educators and who use Macintosh computers should consider this special offer from Apple Computer.

Until March 24, 1993 teachers, administrators, PTA officers, and other educators living in the United States can buy new but recently discontinued Macintosh computers at special discount prices. Apple's Educator Advantage Program offers the Macintosh Classic II for \$799, Macintosh LCII with 12-inch RGB monitor for \$1,099, and PowerBook 170 for \$2,199. All three systems include 4-megabytes of RAM and a 40-megabyte internal hard drive. Apple also offers educators the integrated ClarisWorks program for \$49.

[Apple Computer, 20525 Mariani Avenue, Cupertino, California 95014; (800) 959-APPL.]

Balloons Software

Balloons Software recently announced "Project Equity", which offers free educational software to schools and public libraries in nine states and one Canadian province.

Project Equity offers all public libraries and public and private schools in Arkansas, California, Iowa, Maine, Mississippi, North Carolina, Oklahoma, South Carolina, West Virginia and British Columbia free site licenses for Balloons Software's Number Squares and Big Text Machine programs. (A comprehensive review of Big Text Machine appeared in the January 1993 issue of the *AppleWorks Forum*.) This is a long-term commitment to these schools; Balloons software sets no deadline for this offer.

Schools requesting software must submit a letter from the principal written on school letterhead. The letter should include the name of the school's computer coordinator, the number of students, and the number of Apple II computers at the school.

Libraries should submit a request by the head librarian written on official letterhead. Include the

name of the library's computer coordinator and the number of Apple II computers in the library.

All participating schools and libraries should enclose \$5 to cover shipping.

Our thanks to Phil Shapiro, President of Balloons Software, for making this offer available to the educational community.

[Balloons Software, 5201 Chevy Chase Parkway NW, Washington DC 20015; (202) 244-2223; GENie: p.shapiro1; AOL: pshapiro; Internet: pshapiro@pro-novapple.cts.com]

Clear Night Software

Clear Night Software is now the publisher of DoubleData, Dan Verkade's AppleWorks 3.0 enhancement that lets you include up to 60 categories in your AppleWorks data base files. DoubleData costs \$40; NAUG members can buy the program directly from the company for \$30 plus \$3 s/h (\$5 s/h outside of North America).

Clear Night also announced the release of DateExpander, Dan Verkade's new AppleWorks 3.0 Init that enhances AppleWorks' date management capability. DateExpander lets your data base files accept dates up to the year 2083. The Init also lets you perform date arithmetic in your data base reports.

According to Clear Night, DateExpander is compatible with all the TimeOut and JEM enhancements to AppleWorks. The program comes with an Init Manager and directions that describe how to install the program in your working copy of AppleWorks.

DateExpander normally costs \$25, however NAUG members can buy the program directly from Clear Night for \$20 plus \$3 s/h (\$5 outside of North America).

Enclose your NAUG membership number and payment with your order; Clear Night cannot accept credit cards.

[Clear Night Software, 51 Bowen Road, Perris, California 92571.]

New Disks in the NAUG Library

1040Works Ultra 4 Macros

Bud Simrin, a member of NAUG's 1040Works beta testing team, recently converted the 1040-Works and 1040Works-X macros for Ultra 4. NAUG members who use Ultra 4 and 1040Works should order the "1040Works Ultra 4 Macros" disk from the NAUG Public Domain Library. Our thanks to Mr. Simrin for sharing his work with the AppleWorks community.

Apple II Editors

NAUG's Apple II Editors Disk contains an AppleWorks word processor file with the name, address, and comments about almost 50 Apple II newsletters. Although designed for writers who want to submit articles, the disk is useful to user groups that want to exchange newsletters, developers who want to notify editors of new products, and to others who want to learn about the different Apple II newsletters published throughout the country. Our thanks to Phil Shapiro for preparing this list for NAUG.

Barrows' Utilities – Disk 9

Roy Barrows fans will appreciate Mr. Barrows' ninth disk of UltraMacros and Ultra 4-based enhancements to AppleWorks. Barrows' Utilities – Disk 9 includes:

ADB.Find: Finds and replace text strings anywhere in a data base file.

Data.Wrap: Automatically "wraps" long data base entries into separate categories. This is similar to the macro that appeared in Mr. Barrows' My Favorite Macro article in last month's issue of the *AppleWorks Forum*.

Copy.Cat: Copies the contents of any data base category to the clipboard. You can use Copy.Cat to transfer the contents of a category into a word processor or spreadsheet document or into another data base file.

DateBook: Creates a data base file you can use as a yearly datebook.

Format: Six menu driven formatting tools for the AppleWorks word processor. WYSIWYG formats on-screen documents so they approximate what you get on the printed page. DATE inserts a Print Date Command into a document and lets you center or left or right justify the date on the line. SINCERELY adds a standard letter closing with the same formatting options available for DATE. BEST WISHES adds an informal letter closing with the same formatting options available for DATE. SUPER PREVIEW makes it easy to use TimeOut SuperFonts to preview standard, non-proportional output from Appleworks.

Journal: Creates a data base file you can use as a personal journal or diary. Also provides automatic word wrap so you can enter long descriptive entries in your data base categories.

Line.Sort: Automatically sorts word processor lines into alphabetical order based on the first character in the line.

Super.Read: Stores up to nine word processor lines, data base entries, or spreadsheet cells in memory and recalls those entries in any order you specify. Useful when you want to transfer data within and between AppleWorks modules.

Barrows' Utilities – Disk 9 includes both TimeOut and task file versions of each utility, word processor files with annotated copies of the macros, and documentation in an AppleWorks word processor file on the disk. The disk includes both UltraMacros 3.1 and Ultra 4 versions of the macros and requires AppleWorks 3.0 enhanced with UltraMacros 3.1 or with Ultra 4.1 or later.

How to Get Disks

Unless otherwise noted, all disks are available in both 5.25-inch (\$4) and 3.5-inch (\$6) format, plus \$2 s/h per order. Order from: Public Domain Library, NAUG, Box 87453, Canton, MI 48187; (313) 454-1115; Fax: (313) 454-1965. NAUG accepts Visa and MasterCard.

Help with Software Add-Ons

by Nanette Luoma

Each month, the *AppleWorks Forum* lists the member-volunteers who offer technical support for AppleWorks products. This month's list identifies the volunteers who can answer questions about software add-ons. Next month's list will identify volunteers who can answer questions about your hardware.

How to Use this List

Use this month's list to find volunteers who will answer your questions about your TimeOut enhancements. To the left of each volunteer's name are numbers indicating the enhancements that consultant supports.

1 = 1040Works	9 = Magic File Cabinet
2 = 1040Works Tax Planner	10 = RAMUP
3 = AW Expander	11 = Sensible Grammar
4 = Cross-Works	12 = Sensible Speller
5 = DB.Link	13 = StoryWorks
6 = EuroWorks	14 = SuperPatch
7 = Family Tree	15 = TestMaker
8 = InWords	16 = The Grading Machine

		City	Home	Work
Alabama				
1,3,14	David A. Normand	Fairhope	205-928-2588	

Arizona				
4,8,9,11,12	Clay Evitts	Tucson	602-885-9789	602-296-5491

California				
1-3,12,14	James P. Davis	Hayward	510-489-7024	
14	Cary Hellman	Walnut Creek	510-945-1290	
1,3,14	Terence Higgins	Newark	510-745-7884	415-593-2500
1	Alan E. Kahn	San Anselmo	415-457-9827	
1,4,14	Will Nelken	San Rafael	415-459-0845	415-456-1798
14	Robert M. Rowe	San Diego	619-277-3227	

Colorado				
1,2,4,11	Lyle Graff	Littleton	303-794-5970	303-977-4557
3,13	Geoff Hollingsworth	Morrison	303-697-9277	303-760-4345
8,14	Stephen Reiss	Aspen	303-923-6172	303-923-6172

Connecticut				
13	Sandra Navarra	Danbury	203-743-3533	203-797-4778

Florida				
8,11,12	Henry Clay Bailey III	Jacksonville	904-744-2499	904-725-3477
1	Thomas J. Stanlius	Miami	305-378-6953	305-375-2095
3,7,8,10-12,14	Jeff Strichard	Ft. Lauderdale	305-587-9590	305-977-4991

Georgia				
11,12	Anne Irwin	Rockmart	706-684-8454	
10,14	Rick White	Stone Mountain	404-469-0521	404-616-3350

Idaho				
14	Donald H. Campbell	Lewiston	208-743-9639	208-743-8589
8,14	Howard Katz	Batavia	708-879-5818	708-246-4900

		City	Home	Work
Illinois				
11,14	Charles Jonaitis	Wilmette	708-256-7871	

Indiana				
1,4	Donald Corson	Memphis	812-256-3517	502-473-3036
3,8,14	Jack Countryman	Greensburg	812-663-4998	
8	Brian Henke	Noblesville	317-773-8401	317-251-1132

Maryland				
8,9	Gary Hayman	Greenbelt	301-345-3230	
1,2,9	Tony Mattern	North East	410-658-4799	410-658-5535
3,4,10,14	Michael Spurrier	Baltimore	410-298-0263	410-396-0775

Massachusetts				
8	Marie A. Barry	Beverly	508-927-3736	
4	Rick Paula	Barre	508-355-4475	508-355-5045

Michigan				
1	George Calder	Livonia	313-455-0045	
3,14	James T. Clark	Wyoming	616-243-8361	
4,6-8,14,15	Sharon A. McCreery	Kalamazoo	616-344-1201	
4	Michael McMin	Swartz Creek	313-635-0497	313-232-6541

Minnesota				
8,11,12	James Hirsch	Coon Rapids	612-421-8393	612-422-5572

Montana				
3,5,14	Steve Bernbaum	Shepherd	406-373-6393	

Nevada				
9,14	Keith Johnson	Sparks	702-626-2543	702-784-4812

New Hampshire				
3,4,8,11,12	Andy Albert	Bethlehem		603-823-7411
1,2	Paul Cuetara	N.Hampton	603-964-8343	603-964-8343

New Jersey				
11	Pete Crosta	Nutley	201-667-6369	201-677-4080

New York				
1,3	William C. Bates	Tonawanda	716-834-5428	
4,6,8,14	Bob Beer	Coram	516-928-6870	
8,11-14	Ira M. Garvin	Oakdale	516-563-1253	516-489-7620

Ohio				
16	Tom Gwilt	Conneaut	216-593-2216	
1	Stephen Hartz	Crestline	419-683-4593	

Oklahoma				
1,3,14	M.Coleman Hull	Oklahoma City	405-722-2066	
1	George W. Sall	Tulsa	918-747-7018	

Oregon				
8,14	Richard Millus	Medford	503-772-9787	

Rhode Island				
7,14	Richard A. Martone	Warwick	401-739-8698	
14	Don McCabe	Saunders town	210-294-6256	508-636-2611
1,3,4	Bud Simrin	Fort Worth	817-246-0859	

Members Helping Members...

		City	Home	Work
Texas				
11	B.H. Hinshaw, Jr.	Arlington	817-274-2740	214-670-2119
8,14	Ramon F. Merlin	San Antonio	512-496-5331	
Vermont				
14	Douglas C. Corey	Middlebury	802-388-6209	802-388-4021
Virginia				
4,8	Franklin C. Baer	Harrisonburg	703-432-9230	703-433-8652
3	Ellen Nesbit	Virginia Beach	804-496-8931	804-366-4545
11,14	Wayne Sheffield	Virginia Beach	804-304-6799	
Washington				
11,14	Kent Hayden	Tacoma	206-566-9467	206-931-2669
Wisconsin				
1,7	Peter W. Lee	Milwaukee	414-344-6807	414-229-6180
4,8,14	Lucas Mikkelsen	Glen Flora	715-322-5633	715-532-5511
Australia				
3,4,8,14	D.E. Bruce	Caringbah, NSW	612-527-4731	612-524-3859
3,14	Nicholas Pyers	Elsternwick	61 3 593-2115	
Brazil				
3,10,14	Paulo Chachamovich	Porto Alegre	051-226-4358	051-225-4778
Canada				
11	Salvatore Latella	London, Ont.	519-641-1510	
4	Jim Low	Toronto, Ont.	416-690-3943	
4,8,14	Jean Guy Mariage	Montreal	514-922-4566	514-252-2541
4,12,14	Trudy Young	Toronto, Ont.		416-449-9400
England				
4	Andrew C. Letchford	Crownhill, Plymouth	0752-770-178	
France				
4,11,12	Henry Marsh	Fontenay Aux Roses	43.50.27.45	
5	Alain Zimmermann	Palaiseau	1 69 31 07 64	1 49 78 02 88
Israel				
1-3,10-12	Bernard Katz	Ramat Aviv	03-642-3716	
Japan				
1,3	Jack Thro	Osaka	81-6-338-9163	81-6-586-3926
Switzerland				
14	Charles Kubler	Volketswil	01-945-5873	

Help Your NAUG Colleagues

John Link's article entitled "Now an Even Faster Apple IIGs" (in the October 1992 issue of the *AppleWorks Forum*) describes how to modify your Apple IIGs computer to run almost six times faster than a standard Apple IIGs. As you would expect, this article generated considerable interest among Apple IIGs owners who want faster performance from their systems. However, many NAUG members are uncomfortable making the hardware modifications required by this upgrade.

NAUG would like to put members who want to upgrade their systems in touch with members who successfully installed these upgrades.

If you installed this Apple IIGs upgrade and are willing to help your fellow NAUG members through the process, please send your name, address, and day and evening telephone numbers to: "Speed Up Volunteers", NAUG, Box 87453, Canton, Michigan 48187; Fax: (313) 454-1965.

Electronic Index Update

Electronic Index Update – March 1993

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New Keywords: surveys; Switch-It; The Manager; Kitchen Sink Soft-
ware; extended variables; <.x.Math>; <.x.Str>; <.x.Compare>;
<.x.Fixed>; <.x.Integers>; DateExpander; 1040Works Ultra 4 Macros;
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